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Epidemiology and health economics

O44. Chewing patterns of arecanut, betel quid, and tobacco among patients reporting to a Dental Institute in India

V.K. Keluskar *, A.D. Kale, R.A. Ammanagi, M.I. Hebbal, P.C. Janwad

KLE University, India

Introduction: Globally, chewing of arecanut, betel quid and tobacco chewing are the most common addictions. Tobacco use is one of the major challenges to public health. Today, one million people die due to tobacco use every year.

India is the fourth largest consumer and the third largest producer of tobacco in the world. Its usage is influenced by ethnicity, demographic and psychosocial factors, its accessibility and public policy.

The present study explores the chewing patterns of arecanut, betel quid and tobacco among patients reporting to a Dental Institute in India.

Methods: This study was carried out on those patients with history of chewing habits of arecanut, betel quid and tobacco in the period of 8 months (May 2010–January 2011) with an informed consent. A total number of 538 subjects till date were included in the study.

A close-ended questionnaire was designed which consisted of 3 parts:

- Part A consisted of questions regarding personal/socio-demographic history.
- Part B consisted of questions regarding habits (total 7 questions).
- Part C consisted of questions regarding their knowledge of adverse effects and their attitude towards quitting (total 8 questions).

Results: Out of total 538 patients, 455 were males and 83 were females. Our study revealed that tobacco chewing was much more prevalent among males than females. The form of chewable tobacco used most commonly was gutkha followed by burnt tobacco or mishri and arecanut, inclusive of patients who used more than one form of chewing tobacco. On the contrary, the female population used burnt tobacco/mishri or snuff more commonly, followed by gutkha and arecanut.

Awareness of ill effects of tobacco consumption was seen in 57% of the study sample. 87% of the patients showed willingness to quit the habit. 61% had tried quitting the habit earlier.

Discussion: Tobacco usage is widely prevalent among males as compared to females. Most tobacco users consumed it in multiple forms. It was found that awareness about ill effects of tobacco use was relatively low in spite of warnings on all tobacco products and advertisements. Although many were willing to quit tobacco use the success rate of cessation was low.

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O45. Combined effects of isothiocyanates (ITCs) intake, glutathione S-transferases (GSTs) polymorphism and risk habits on oral squamous cell carcinoma (OSCC) associated with earlier age of disease onset

L.P. Karen-Ng *[a], J. Marhazlinda [c], Z.A.A. Rahman [a,b], M.T. Abraham [d], S.C. Cheong [b,e], R.B. Zain [a,f]

[a] *Oral Cancer Research and Coordinating Centre (OCRCC), Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*
[b] *Department of Oral Maxillofacial Surgery, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*
[c] *Informatics Unit, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*
[d] *Oral Health Division, Ministry of Health, Putrajaya, Malaysia*
[e] *Oral Cancer Research Team, Cancer Research Initiatives Foundation (CARIF), Subang Jaya, Selangor, Malaysia*
[f] *Department of Oral Pathology, Oral Medicine and Periodontology, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*

Introduction: ITCs found in cruciferous vegetables has been reported to reduce cancer risk by inducing phase II conjugating enzymes, in particular GSTs. Interestingly, these enzymes also metabolize ITCs therefore; the protective effects of ITCs would depend on the activity of GSTs. This study aimed to determine association between dietary ITCs, GSTs polymorphisms and risk habits (cigarette smoking, alcohol drinking and betel-quid chewing) with oral cancer.

Method: Included in this study were 115 OSCC patients and 116 healthy subjects. Information on ITC intake from cruciferous vegetables was collected via a semi-quantitative FFQ. Peripheral blood lymphocytes were obtained for genotyping of GSTM1, GSTT1 and GSTP1 using PCR multiplex and PCR-RFLP. Chi-square and logistic regression were performed to determine the association of ITC and GSTs polymorphism and risk of oral cancer.

Results: When dietary ITC was categorized into high (greater than/equal to median) and low (less than median) intake, ITC consumption was higher among cases (51.3%) than controls. However, it was not statistically significant ($p = 0.645$).

Discussion: Odd ratios analysis showed no significant association between ITC intake, GSTM1, GSTT1 or GSTP1 genotypes with oral cancer risk. However, GSTP1 wild-type was associated with later disease onset in women above 55 years of age ($p = 0.017$). Among men above 45 years of age, there was a significant 17-year difference in the age of OSCC onset between those with GSTP1 wild-type + low ITC intake and GSTP1 polymorphism + high ITC intake ($p < 0.001$). Similarly further analysis stratified by risk habits (drinking and chewing), showed that GSTP1 polymorphism + high ITC intake was associated with earlier disease onset ($p < 0.001$). This study suggests that combinatory effects between dietary ITCs, GSTP1 polymorphism and risk habits may be associated with risk of oral cancer and modulate the age of disease onset.

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O46. Aldehyde dehydrogenase 2 (ALDH2) and glutathione S-transferase M1 (GSTM1) polymorphisms in relation to oral cancer risk among Malaysians

L.P. Karen-Ng [a], W.M.N. Ghani *[,a], A. Vimmitra [a], K.M. Yuen [b], H.S. Tan [a], S.J. Lim [a], M.T. Abraham [b], Z.A.A. Rahman [a,d], K.K. Tay [b], W.M.W. Mustafa [b], N. Jalil [b], A. Norlida [b], S.C. Cheong [e], R.B. Zain [a,c]

[a] *Oral Cancer Research and Coordinating Centre (OCRCC), Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*
[b] *Oral Health Division, Ministry of Health, Putrajaya, Malaysia*
[c] *Oral Pathology, Oral Medicine and Periodontology, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*
[d] *Oral Maxillofacial Surgery, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia*
[e] *Oral Cancer Research Team, Cancer Research Initiatives Foundation (CARIF), Subang Jaya, Selangor, Malaysia*

Introduction: ALDH2 is an enzyme involved in major oxidative pathway of alcohol metabolism while GSTM1 is a drug-metabolizing